KANSAS MEDICAL JOURNAL.

VOL. III. TOPEKA, KANSAS, NOVEMBER, 1891. No. 11.

Treatment of Fractures of the Femur.

Read before the Topeka Academy of Medicine and Surgery July, 1891,

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It will aid us very materially in arriving at a rational treatment of fractures of the femur, if we spend a few moments studying the subject of repair of fractures. In fractures of bones, a more perfect regeneration takes place than in the soft tissues, except, perhaps, it be in the nerves; in fact, if after a sufficient length of time has elapsed the bone be examined, it will be found not only to have the general appearance of the surrounding bone, but microscopically the structure will be the same, so that you will often hear the expression that the bone is stronger at the point of fracture than at any other point.

The repair of bone is by the same general process as of other tissues. The cells of the periosteum, and the marrow, and from those lining the Haversian canals, and the lacuna of the bone multiply very rapidly; by this proliferation is formed a mass of granulating tissue, which fills the spaces between the fragments of bone as well as around the broken ends of the bones. This proliferation of the fixed cells gradually becomes organized tissue, and in due time by the deposition of earthy salts within its substance, osssification takes place. The time at which ossification commences is usually during the second or third week.

The transition from granulation tissue to bone is usually through the connective tissue stage, though occasionally the granulation material first becomes in certain parts cartilaginous before it is transformed into bone.

This new bone soon begins to undergo a gradual change. Some of it which is at first spongy becomes more compact, while other portions become more rarefied or cancellated, while other portions are absorbed altogether, after having fulfilled the object of their creation—that of aiding in maintaining the fragments of bone in place during the reparative process. In fact, the physiological changes that take place in the repair of bone differs only in degree from those observed in the growth of new bone; for that is what it really is. The location and extent of injury and the relative position of the fragments and of the surrounding soft parts modify the number of nature's resources, and indicate the amount and character of the reparative work to be done.

If the fracture be in the shaft of the bone, the periosteum is necessarily more or less torn and stripped from its attachment to the bone, and forms a sort of imperfect sheath around the seat of fracture; within the limits of this imperfect sheath, new tissue to unite the bone is rapidly deposited, as well as from fractured marrow, and the injured Haversian canals. All these become more or less inflamed, and a profuse proliferation of fixed cells takes place, which, mixed with the blood clots and effused serum, forms an exudate which soon becomes granulation tissue. The bone is the least active, and the slowest in furnishing new tissue, because it has fewer cells of its own than the marrow or periosteum.

This granulation tissue which fills the spaces between the fragments of bone and forms a plug-like substance in the marrow of the bone and beneath the periosteum and the connective tissue outside of and around the periosteum is also filled with proliferating cells, which help to steady the broken bone by glazing the adjacent muscles, tendons and fascia together. When this

exudate around the fractured ends of the bone becomes hard and ossified, it is called callus, and may truly be denominated nature's splint.

This provisional callus, as well as the plug that has occluded the medullary canal and which have played so important a part in holding the fragments of bone in position while repair was going on, and while the definite callus is being formed, are in time absorbed, leaving the medullary canal reestablished, and the external surface of the bone smooth and natural. Whenever a large amount of provisional callus is formed, it indicates that the repair has been difficult, and that there has either been considerable displacement or motion. In the healing of fractures of the articular surface of bone enclosed within a capsular ligament and bathed in synovial fluid, there is no provisional callus formed, and if bony union takes place, it is directly between the fractured surfaces of bone; and this condition doubtless accounts in part for the frequent failure to obtain bony union within the capsular ligament of the head of the femur.

The process of repair in open fractures if aseptic is identical with that of closed fractures which we have just described. But if the open wound is not made and kept aseptic, and suppuration occurs, the process of repair is much impeded, because the warfare between the embryonic cells and the microorganisms is followed by death of much of the new tissue, as well as the destruction of more or less of the bone and surrounding soft tissues; and you have added to your single traumatic inflammation a septic condition that not only threatens the life of the parts, but the life of your patient—hence the necessity of making and keeping every open fracture aseptic, thus converting it into a closed fracture.

Whenever it is practicable, every fracture of the femur should be treated just as though you expected bony union, and then if you fail to obtain it, blame will not rest with you.

In cases of separation or fracture of the epiphyses, the union is usually bony, instead of the former cartilaginous union. Another fact has been observed, that the growth in the length of the bone is retarded by this precocious bony union between the shaft and epiphysis. Prof. Agnew thinks that in some cases the epiphyseal cartilage on the other end of the bone acts in a compensatory manner, by allowing an unusual lengthening there, though this does not seem to be well established.

So far as the treatment of the various fractures of the femur are concerned, they may for convenience be divided into fractures of the neck and of the shaft, and the former may be sub-divided into fractures within the capsular ligament and those without, and those that are partially within and partially without. The fracture of the shaft may be sub-divided into those of the upper, middle, and lower third; also fracture of the trochanter major, and fracture of the condyles. In children, we are apt to have fracture of the epiphyses, as well as of the shaft of the bone.

In the treatment of fractures of the femur, the first and one of the most essential requirements will be a suitable bed. This need not be one of the many complicated and expensive fracture beds that are to be found on the market, and which are mainly applicable to hospital practice; but it should be a narrow or single bed, which will enable the attendants to handle the patient from either side with ease. This should be provided with a good firm hair or moss mattress, supported by slats instead of a woven wire or springs. For it matters not what form of appliance you may use in the treatment of the case, a good, firm, reliable and comfortable bed may truly be said to be the foundation of your treatment. So thoroughly am I convinced of the necessity of it, that I believe the surgeon is justifiable in refusing to assume the responsibility of treating a case without it, for if in consequence of this neglect the result should be bad, the patient and his friends will not be willing to make any allowance or accept any apology for what was really their own failure and shortcoming, in not providing a suitable bed. So I say, do not accept any compromise on this important factor in the treatment of your case.

In all cases of fracture, the injured parts should be handled with the greatest care possible, thereby avoiding all unnecessary suffering of your patient, or subjecting the already injured tissues to additional mutilation.

The primary indications to be fulfilled are two: reduction and retention of the fractured bone. By reduction we mean the act of placing the fractured ends of the bone in apposition, and as near their natural position as possible; and by retention we refer to the process of retaining the fractured bone in its normal position by various measures hereafter to be described. Reduction should be attempted as soon after reaction has taken place as practicable, and before inflammation and swelling has supervened, for the reason that it will be less painful to the patient, and adjustment can thereby be more readily and accurately accomplished, and the wounding and irritation of the soft parts by the sharp ends of the fractured bones be prevented. If you do not see your case until inflammation and swelling has become severe, it may then be judicious to postpone the reduction until they have subsided; especially if much force be required, as there would be danger of injuring the vessels and nerves; or by producing undue pressure, produce gangrene.

Reduction is usually effected by extension made in the axis of the limb from below the fracture, and counter-extension made from above the fracture. This should usually be done by assistants, under the instruction of the surgeon, leaving the surgeon's hands free to be used to manipulate the fractured ends of the bones, which is often very essential, especially when the bones are badly shattered. It also enables the surgeon to determine when the bones are in apposition.

In cases of very muscular patients, or when there is considerable muscular spasm, it may be desirable to give an anesthetic; and for this purpose chloroform is preferable.

Pulleys are never justifiable or required; they are moreover dangerous. What is required is a firm, steady, continuous and moderate extension traction that will tire out the contracted muscle. In cases of impacted fracture of the neck of the femur, extension should not be made to the extent of relieving the impaction, as it is a great aid in maintaining the ends of the bones in apposition and facilitating union. In these cases very little extension is required.

In cases where one fragment of the shaft is forced through the soft tissue, great difficulty is often experienced in the reduction, and it often becomes necessary to enlarge the opening before reduction can be effected. This I think is far preferable to exsecting a portion of the bone, as has been recommended by some, on account of the increased liability to shortening, which we are endeavoring by every means in our power to overcome and prevent.

When reduction has been effected, the limb should be compared with its fellow, and careful measurements should be made to verify the correctness of the replacement. These measurements to be of value must be made with great care and accuracy. They should be made with an unyielding line, and from fixed bony prominences. One of the most convenient and reliable of these is the anterior superior spinous process of the injured side; above, to the internal or external malleolus of the injured limb below; then measure the opposite limb in the same manner; when, if found to be alike, you may reasonably conclude that the reduction has been properly effected. A suggestion as to the manner of making measurements may not be inappropriate here. Instead of attempting to place ring or end of your tape-line over the point of the anterior superior spinous process, (the integument over which is very movable,) place the ring or end of the tape-line immediately beneath the point of the anterior superior spinous process, holding it there by the thumb nail, which is unyielding; then carry the line down to the lower border of the molleolus, and hold in the same way beneath it. In this way you have measured from fixed points that can be readily recognized on either side. Should any doubt exist, you may verify your measurement by measuring to the condyles of the femur, or to the border of the patella, or to the head of the tibia; or if the fracture be

in the shaft of the bone, from the trochanter major. In making measurements, a well-established fact should be borne in mind: that femurs in the same person are often of unequal length, of from one-fourth to one-half inch, when no injury had ever been sustained. Should a fracture occur in a limb that was one-half inch longer than its mate, it might unite with an actual shortening of one-half inch, but upon measurement it would be as long as its mate; while on the other hand, if the shorter limb should be fractured and heal with the same amount of shortening, you would have a shortening of one inch by actual measurement. And I think that this anomaly will in part account for that class of cases that are sometimes reported by reputable surgeons, that upon recovery the injured limb was longer than it was before injury.

Reduction having been effected, the next and most important step of all will present itself for solution, namely, the retention of the fractured ends of the bone in their normal position; and this, too, with as much comfort to the patient as possible with safety to the injured parts. For this purpose, a great number of appliances have been devised, all of which have more or less merit, and yet none of them so perfect as to be wholly unexceptionable, or as to be applicable to all cases; but in the hands of their inventors they are credited with very satisfactory results. Their name is legion, and time will not admit of my giving even a description of them this evening. With many of them you are familiar. But suffice it to say that they all embody the same fundamental principles, (to a greater or less degree,) which we recognize as indispensable in the management of fractures of the femur, that of extension and counter-extension and immobility of the ends of the fractured bone, ever having in mind the comfort of the patient.

So far as I have been able to ascertain, the early surgeon adopted the straight position in his treatment of fractures of the femur, either with lateral splints or long splints, with or without extension or simply with roller and compresses. Such seems to have been the general practice of surgeons until about the middle of the last century, when "Percival Pott" wrote his famous treaties on fractures, which attracted universal attention on account of its originality, and which revolutionized the treatment of fractures of the femur for nearly a hundred years, especially in Great Britain. It was denominated the "Physiological Doctrine," founded upon the assumption that the resistance of those muscles which tend to produce shortening can generally be overcome by posture, without the aid of extension; and that for this purpose, in case of fracture of the femur, it was only necessary to flex the leg upon the thigh, and the thigh upon the body, laying the limb afterwards quietly on its outside upon the bed.

This physiological system did not meet with the hearty support of the surgeons of his day, but in a modified form, namely, of placing the patient upon the back and flexing the limb over a double inclined plane. It was quite generally adopted by such surgeons as Sir Ashly Cooper, C. Bell, John Bell, Earl White, Sharp, Amesbery, and others. In France and upon the continent generally, it was adopted very reluctantly, until Dupuytren adopted it, and gave this peculiar system his unqualified support. This determined many in its favor, and the double-inclined plane became a recognized plan of treatment of fractures of the femur.

As early as the beginning of the present century this flexed position system of treatment had begun to decline under the strong and decisive opposition of Desault and Boyer and others, and a strong reaction set in in all parts of the world, and practical surgeons generally have settled back to the older plan, which really seems to be the correct "physiological plan" after all; the straight position, and which I believe is generally adopted by leading surgeons the world over.

Thus there seems to have been three distinct epochs in the history of the treatment of fracture of the femur. First, the straight position; second, the flexed position; and third, the return to the straight position by an almost unanimous voice of the profession; and this is the epoch of our own day.

In fracture of the neck of the femur with impaction, no extension is required. The patient is placed upon the back, and the injured limb is placed in position to correspond with its fellow as near as practicable, and maintained there by a long side splint extending from the foot to the axilla, and properly padded, so as to bring continuous pressure over the point of fracture, sufficient to keep the ends of the bones in apposition. Or the hip may be encased in a fixed dressing, such as the plaster of paris, starch, glue, or something of that character. These may be reinforced by a screw and pad placed in the dressing over the seat of injury, or by "Senn's" apparatus, which keeps up continuous pressure. Then fixed dressings should be so arranged that they can be tightened as occasion may require. The prognosis in this class of fractures is generally favorable.

In cases of fracture of the neck of the femur without impaction, in addition to the apparatus described above, it is necessary to overcome the contraction of the powerful muscles of the hip, which, if not done, will produce shortening of the limb and perhaps prevent union; and the best means adopted to that end is extension and counter-extension.

The extension may best be accomplished by taking a long piece of adhesive plaster four or five inches wide, and long enough to extend from above the knee-joint below the point of fracture down each side of the limb to a few inches below the foot. This may be attached to a cord that runs through a pulley fastened to the foot of the bed, to which cord may be attached the requisite amount of weight to produce the required extension.

The adhesive strip should be fitted to the limb smoothly, and secured by a roller bandage.

The amount of extension required in any particular case must be governed by the amount of muscular contraction to be overcome, varying from five to twenty pounds. Frequent measurements and examinations of the limb will be the best guide as to the amount of weight to be used. When the contractility of the muscles, which is an important factor in producing shortening and displacement, has been fully overcome, and the plastic material that has been thrown out around the fractured ends of the bone has become pretty well organized, and ossification has commenced, the amount of extension may be gradually diminished, until the repair is sufficiently advanced to hold the fractured ends of the bone in place. This will take on an average of from four to six weeks, and not until from the eighth to the twelfth week should any weight be borne upon the limb. No matter what device may be employed to maintain the ends of the bones in apposition, the extension should be in the direct line of the long axis of the bone; not to low, so as to produce undue pressure upon the heel; nor to high, so as to produce unnecessary pain in the knee joint. The foot should either be straight in line with the leg or slightly everted.

The counterextension to be employed in these cases is obtained through and by the weight of the body. The foot of the bed being elevated from four to six inches furnishes all the counterextension required, and does away entirely with the perineal band which was frequently the source of so much annoyance to the surgeon and discomfort to the patient.

Another plan of fulfilling the same indications, but by different methods, is by the employment of the long side splint of "Desault," as modified by "Physick," or Miller's, or Niel's, or some one of the many other forms, which as you know consists of a long side splint extending from the axilla or near it to below the foot, and provided with a foot piece, from which extension may be made, while the counter-extension is obtained by means of perineal bands or by broad bands around the body or from pressure in the axilla. While it is true that satisfactory results may and have been obtained by the latter method, yet the other is so much more simple and more easily managed, that it should be generally adopted, while it has the further advantage of being inexpensive and always procurable.

In fractures of the neck in feeble or elderly people, who are unable to bear the restraint and confinement as indicated, a different

plan must be adopted, and only so much restraint enjoined as will be compatible with their enfeebled condition. Keep the limb in as near the natural position as possible, using sand bags for lateral pressure, or perhaps a moderately-firm broad canvas or leather bandage around the hips which will give comfort to the patient and support to the broken bones. I have seen some very good results and useful limbs follow this plan of treatment. The danger in these cases is often greater from the confinement, than from the injury.

In fractures of the shaft of the femur, the same general principles of treatment are applicable with such modifications as the location of the injury would indicate. In fracture of the upper and middle third, in addition to the tendency to shortening of the limb, the tendency is for the lower end of the upper fragment to be drawn outward and forward; and this requires additional coaptation splints applied over the seat of fracture. These may be made of wood or felt or binder's board or other firm material, and may completely encase the limb, or only partially, as required. I think that a very necessary step in the management of many of these cases is a long posterior splint that shall extend from opposite the trochanter major to the knee. After all swelling has subsided, a starch bandage may be applied from the hip to the knee, with good results. It gives a uniform, steady support to the parts, and if properly applied can be tightened from time to time as required. In my hands it has been very satisfactory. When the fracture is just below the trochanter major, great difficulty is often experienced in keeping the lower end of the upper fragments down in contact with the lower fragments. It being short, the strong muscles tend to draw it forward and outward. To overcome this, it has been recommended and practiced, to place the limb upon a double-inclined plane, thereby relaxing those muscles, and carrying the upper end of the lower fragment up against the lower end of the upper fragment. Then with the necessary anterior and outer pressure, the parts are sometimes maintained in a very satisfactory position. Hamilton does not think that this position accomplishes what is claimed for it, or that it has any advantages over the straight position.

Smith's anterior splint, or Palmer's modification of it, or Hodgen's suspension apparatus, have given in the hands of their inventors, as well as in the hands of some surgeons, very satisfactory results. They are particularly adapted to open fractures that require frequent dressing and inspection. And they are said to be among the most comfortable appliances for the patient.

The treatment of fracture of the shaft of the femur exclusively, by what is known as the fixed dressing, such as the plaster of paris, starch, glue, etc., is gradually falling into disuse, and when used at all it is generally in the latter part of the treatment, or in connection with other appliances.

The shrinking of the soft parts necessitates frequent changing of this dressing to insure immobility of the fractured bones; and the liability of disturbing the embryonic tissue at each dressing, and thereby retarding if not preventing repair, makes this form of dressing undesirable. Again, there is danger of getting your fixed dressing so tight that when the swelling supervenes the circulation is impaired, and gangrene is produced. Thi accident has frequently occurred, and some of you doubtless remember a case that occurred in this city only a few years ago, in which amputation of the limb became necessary.

In fracture of the femur in children under seven or eight years of age, I have found no better appliance than a long side splint on either side, extending from near the axilla to a few inches below the feet and fastened together at the lower end by a cross-piece. Extension is made and reduction is effected and secured by coaptation splints around the limb at the seat of fracture. Then your double long splint is applied, and fastened to the body by a broad body bandage; the injured limb is firmly but comfortably secured to it by means of a broad roller; then the uninjured limb is fastened to the opposite side splint, the foot resting against a block on the cross-piece about two inches thick. Then

extension can be made on the injured limb by means of adhesive straps to the foot piece if required; but as fractures in children are usually transverse, instead of oblique, very little extension is required; the coaptation splints, with the long splints to secure immobility, fulfilling every indication. One great advantage of this dressing is, that the child can be taken up and moved from one bed to another without the least pain or danger of disturbing the dressing, or displacing the fractured ends of the bone. A perineal band may be used if found advisable, which I think will seldom be the case.

In all cases of fracture, simplicity of appliances and gentleness of manipulation marks the accomplished surgeon, while an unnecessary multiplicity of appliances and rough and painful manipulation of the injured parts marks the heartless charlatan.

DISCUSSION.

Dr. Lindsay differed with the reader in regard to the use of plaster of paris. Thought it could be applied without irritation or other inconvenience. Leaving it open, after the manner of the Bavarian splint, allows inspection and the use of any application necessary. Thinks the perineal band an advantage.

Dr. Munn thought no five men could make measurements that would correspond. The measurements from the umbilicus are the most reliable. Buck's extension is a misnomer, for it was used for years before he was born. He uses plaster of paris in children, but thinks it does not give as good results in the adult. Except in fractures high up, you do not need coaptation splints. In simple fractures of the shaft, some surgeons have good results from the application of the roller bandage.

Dr. Morgridge took issue with the statement that the repair process in a fractured bone was the same as in the normal growth of bone. After a fracture, the repair takes place through an inflammatory process which obliterates to some extent the Haversian canals. The new bone formed is more compact and stronger.

Dr. Mitchell spoke of a case he had treated by means of a fracture box, and a screw at the end of the box for extension. In this case, at recovery, the fractured limb was three-fourths of an inch longer than its fellow.

Dr. Sheldon, in closing, said he prefered the starch bandage to the plaster of paris.

In regard to Dr. Morgridge's exceptions, it was his impression that the final results were the same; that the new bone formed was identical when the reparative process was completed, to the original bone.

May Physicians Claim Witness Fees in Advance?

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In view of a discussion published in your July number concerning this question, which elicited much diversity of opinion as to what ought to be, but no agreement as to what is the law, it may be of advantage to cite some authorities upon an important snbject. It is admitted that the ordinary statutory witness fee—(in Kansas, I believe $1.50 per day and mileage)—can be claimed before testifying; but it is denied that experts are entitled to extra fees, much less to the privilege of claiming them in advance. What say the authorities? In England, the rule is to allow the extra fee in advance, at least in civil cases. It was so declared in *Betts v. Clifford*, and in *Webb v. Webb*, (1 Carrington and Kerwan, 25,) cases already cited. The expert having demanded the fee, Justice Maule promptly allowed it, giving a full exposition of the law, as was before quoted.

In the United States, the rule is also clearly established.

In Rogers on Expert Testimony, p. 253, the author says: "It is undoubtedly the practice in all important cases, for the parties calling experts or professional witnesses to pay them an additional compensation, that is not considered contrary to the policy of the law that these witnesses should be specially feed. For if special compensa-

tion was not made or permitted, the testimony of such witnesses could not be procured without great pecuniary loss, and perhaps could not be secured at all." Works on medical jurisprudence are unanimous in the same opinion. See Ordoueaux's Jurisprudence of Medicine, p. 114 and 115; Beck's Medical Jurisprudence 920; Taylor's Medical Jurisprudence 41; Reese's Medical Jurisprudence; all of whom fully declare the law and the reasons for it.

In vol. 3 of the Reference Handbook of Medical Sciences, page 54, will be found an able article on "Fees and their Collection," by a law writer, Henry A. Riley, in which he says: "When physicians appear as ordinary witnesses on trial of actions, they receive only the usual fees. In case of expert testimony, very few of the states require witnesses to accept the pittance paid to ordinary witnesses. Alabama and Texas are perhaps the only exceptions to this statement. The general rule is that no one is obliged to testify as an expert against his will, nor unless he is compensated reasonably. The demand for payment must, however, be made before the witness is sworn, or at all events before the testimony is begun. Expert witnesses are called because of their supposed superior knowledge, and it would be unjust to require them to accept the ordinary fees. Another reason is that expert witnesses are often required to study up a case thoroughly, to be present during the whole trial, listen attentively to the evidence, so as to qualify them to give opinions concerning it.

"A fee of $500 in one case was held to be reasonable, considering the attention and study demanded of the witness."

Bouvier's Law Dictionary, vol. 2, p. 675, reads: "It would seem that experts . . . . . cannot be compelled to give their opinion unless in pursuance of a special contract for their time and services."

Now as to American decisions—Judge Sprague laid down the rule in Massachusetts, (*In re* Bodkin Sprague, 276,) that the court would not compel the attendance of an interpreter or an expert.

In New York, in *Lyon v. Wilkes*, (1 Cowen, 591,) the court ruled that a surveyor attending as a common witness of fact was not entitled to extra pay, but that "if he had made a view," he was entitled to expert fees.

The supreme court of Alabama, in 1875, laid down the opposite rule in the case, *Ex parte* Dement., (12 Central Law Journal, 193,) where the physician was subpœnaed by the state in a murder case, and was sworn and went on the stand without objection and testified that he had seen the deceased after he had received the wounds alleged to have caused death. He was then asked to state the nature of the wounds and their natural results. Here, for the first time, he refused to testify because "he had not been remunerated for his professional opinions nor had compensation for his professional opinion been promised or secured." The court fined him for contempt. He appealed to the supreme court and it affirmed the decisions. The judges claimed that all previous decisions had favored the allowance of the fee solely on the ground of loss of time by the expert (which reason did not apply in this case)—but that the courts had not yet allowed pay for professional opinions as such. They go on to say, "but it is not intimated by any of them, that a physician when testifying is to be considered as exercising his skill and learning in the healing art, which is his high vocation, or that a counsellor at law in the same situation is exerting his talents and requirements in professionally investigating and upholding the rights of a client. If this is so, each one should be paid for his testimony as a witness, as he is paid by his clients or patients according to the importance of the case, and his own established reputation for ability and skill. But in truth he is not really employed or retained by any person, and the evidence he is required to give should not be given with intent to take the part of either contestant, but with strict regard to the truth, in order to aid the court to pronounce a correct judgment."

In this case, then, the property value of a physician's professional knowledge, unless coupled with loss of time, was denied. The

logic of the court, however, is glaringly at fault. If a physician or attorney is restricted to so narrow a sphere that their services are only valuable when dosing the sick or presenting a case, then by purity of reasoning, the goods of the grocer are only valuable when eaten, and not when stolen, or planted, or burned, because to be eaten was their ordinary function.

The following case decided two years later (1877) in Indiana, expressly allows the fee on this ground of property value.

It was in *Buchman v. The State*, (59 Indiana Reports, 1,) and prior to the adoption of their recent statute regulating expert witness fees.

The court held that a physician must attend as a witness to facts, the same as any other witness, but that "he could not be required to testify as to his professional opinion without the compensation of a professional fee. In the opinion of the court, the professional knowledge of a physician or attorney is to be regarded in the light of property, and his professional services are no more at the mercy of the public as to remuneration, than are the goods of the merchant, the crops of the farmer, or the wares of the mechanic."

"When a physician testifies as an expert by giving his opinion, he is performing a strictly professional service. To be sure, he performs that service under the sanction of an oath. So does the lawyer when he performs any service in a cause. The position of a medical witness testifying as an expert is much more like that of a lawyer than that of an ordinary witness testifying to facts. The purpose of his service is not to prove facts in the cause, but to aid the court or jury in arriving at a proper conclusion from facts otherwise proved."

Two years later (1879) we hear the supreme court of Texas in *Summer v. The State*—another murder case where the doctor was called by the state, as in the Alabama case and recorded in (5 Texas Court of Appeals 374.) Here, also, a Dr. Spohn, was sworn to tell the whole truth, and then went on the stand and partly did so, and then stopped in mid-stream and refused to budge. He said: "I found the deceased breathing but unconscious; had a contusion upon the left side of the head, but no exterior evidence of a fractured skull; removed the patient to town and attended him until the next day, when he died; after death, made a post mortem examination, but I decline to state the cause of the man's death, as my knowledge was obtained by professional skill, and from the deductions of experience, which I consider my own property, and which the county of Nueces has persistently refused to pay for.

"I have no knowledge of the actual cause of the man's death, save through the post mortem examination alluded to."

The lower court sustained the doctor's position, but the court of appeals overruled it, and said: "The court may compel a physician to testify to the result of a post mortem examination, and it is to be regretted that a member of a profession so distinguished for liberal culture and high sense of honor and duty should refuse to testify in a cause pending before the courts of his own country, involving the life and liberty of a fellow being, and the rightful administration of the laws of a common country." Afterwards the court said that the physician could not be compelled to make the post mortem, but having made it, he was compelled to disclose the result of it.

A late case (1883) involving the subject was that of the *United States v. Howe*, tried in the U. S. district court in Arkansas, and reported in vol. 12, Central Law Journal, 193. Here, also, was a murder case, but where the doctor wisely refused to take the stand and testify, till "first paid a reasonable compensation for giving the results of his skill and experience." The court declined to regard this refusal as a contempt of court. The distinction between witnesses of fact and those of opinion dependant on skill in a profession or trade was reaffirmed and they said: "When he has facts within his knowledge, the public have a right to those facts; but the skill and professional experience of a man are so far his individual capital and property, that he cannot be compelled to bestow them gratuitously upon any party.

That the public cannot, any more than a private person, extort services from a person in the line of his profession or trade without adequate compensation."

I am informed that the supreme court of Michigan, also, has lately announced the same doctrine, and reprimanded a lower court for refusing to allow the fee.

A cursory review of these authorities reveals two English cases, four works on medical jurisprudence and three law writers, which, though not decisive of the point, are yet entitled to great weight. And seven American decisions, in Massachusetts, New York, Alabama, Indiana, Texas, Michigan, and the United States court for Arkansas, all of which are final and declaratory of the law in their respective jurisdictions and constitute precedents which courts of other states will follow. This makes a total of sixteen authorities — all I am able to find — and all except two favoring the extra fee in advance, and in those two cases it appears the foolish doctors first submitted to be sworn "to tell the truth, the whole truth and nothing but the truth," and actually got about half through complying with the promise and obligation of their oath before they "stopped short—never to go again"—the moment it came to their opinion.

The opposite rule, in addition to being illogical, originated in Alabama, a southern state, formerly purchased from France and more or less impregnated to-day with more or less French and Spanish codes, and hence her decisions have little more authority as precedents in courts of the northern states than those of a foreign country. Finally, as a matter of fact, Texas alone has followed her precedent, and after the Texas decision, Indiana repudiated both as did Michigan and the United States for Arkansas, all being comparatively late law upon the subject and affirming the allowance of the fee.

Yet the attorney who argued the other side of the question stated that the main drift of all practice and all opinion is the other way.

This review, which is tolerably complete, shows only two questionable opinions out of sixteen in his favor. Until the Kansas legislature passes some statutory law, the Kansas supreme court will be very likely to follow the decisions of other northern states, and allow the doctor his expert fee in advance

I advise physicians, then, if subpœnaed, to obey the subpœna, and attend court; for on its face it does not specify whether they are summoned as physicians or as citizens. When in court ascertain to what you are expected to testify. If it is a question of fact, forget you are a physician and testify for the $1.50 per day. If your opinion is sought, demand a reasonable fee, prior to being sworn. If the question is a mixed one of fact and opinion, state the fact, and unless paid for the opinion, say as did the fox, in the fable of Aesop.

When asked by the bear and the lion whose breath smelled the worst, he scratched his head and replied: "Excuse me — I have a cold, and can't smell!"

Surgical Treatment of Strangulated Hernia.

BY J. T. AXTELL, M.D., Newton, Kas.

A few cases from practice will probably best introduce this subject.

CASE 1. An old man with a large inguinal hernia. Had been strangulated for three days. Stercoraceous vomiting for twelve hours and signs of collapse. After having the history of the case and examining him I advised herniotomy, that the bowel might be examined before being returned to the abdominal cavity. He was a Menonite, however, and after consulting his minister I was told if the Lord wanted him he would take him away and an operation was refused. I then did what seemed the best thing under the circumstances, reduced the hernia by taxis, but my patient died within twelve hours. There seemed slight relief for a few hours only. No doubt if herniotomy had been performed and the sac opened, the bowel would have been found in a too unhealthy condition to return, and after

nicking the ring, a longitudinal opening in the bowel and stitching it to the skin would have given him a chance for his life.

CASE II. This was not so easy of diagnosis. A lady was suddenly seized with colicky pains while drawing water from a well with buckets. There was no history of any rupture, but an examination showed an enlargement in the right crural region just where a femoral hernia would be found. The patient thought the lump had been there a long time, had never seen it disappear although it grew smaller on lying down.

The pain was intense and described as a terribly painful pulling-down feeling on the right side of abdomen, but not much at the seat of the tumor. Vomiting soon came on, and while the diagnosis was somewhat obscure, the patient was chloroformed and an effort to reduce the enlargement was made. This failing, the parts were shaved, washed with soap and brush, then with ether, and last with 1 to 1000 bichloride of mercury solution. The instruments were steamed and placed in 1 to 20 carbolic acid solution. Hands were scrubbed and washed in the 1 to 1000 bichloride solution; towels wet in the same solution were placed around the site of operation. An incision about two inches long was made along the axis of the crural canal and a little to the inner side. When the sac was reached it was at once opened and a very small knuckle of intestine was found strangulated therein. The constricting neck was divided by a hernia knife on a grooved director. The bowel was examined carefully, found healthy, and returned to the abdomen.

During the operation, the opening was sponged simply with boiled water.

The sac was found thickened and dark, and was tied with catgut and removed.

Then very heavy catgut sutures were used and the ligaments, through which the hernia descended, were brought together, tied, and the ends of the catgut left to pass out of the lower end of the wound for drainage. The integument and fascia were next united by another set of sutures. Iodoform was freely sprinkled over the wound, bichloride gauze was placed next, covered by absorbent cotton, and lastly a spica bandage was applied. No laxative of any kind was given, but a natural passage soon followed.

The patient was kept on her back for a week, at which time the dressing was removed for the first time.

It had healed by first intention, with no sign of suppuration. The patient was gradually allowed to stand and walk, although the bandage was left in place some time. The rupture did not again appear and a radical cure was obtained.

CASE III. This operation was performed under difficulties. Eight miles in the country I found an inguinal case of hernia of twenty years standing in a man over seventy years of age. The rupture had been strangulated about six hours, and the patient was vomiting fœcal matter, and almost dead. I at once gave chloroform, pulled the mattress half off the bed and in this way got my patient's shoulders on the floor while his hips were on the bed. But I could not reduce the strangulation.

I had no instruments with me but a small pocket case in which was no grooved director. There was no hot water in the house and no one to assist me except my driver and a farmer. There were no screens on doors or windows, and the room was full of flies. Yet the old man could live but an hour or two unless relieved, and there was no time to send for anything.

Anaesthesia was already produced, so I laid him on a table, gave my driver in charge of the chloroform and the farmer a peach limb to brush away the flies. I scrubbed the parts with a cold bichloride solution, shaved it with a bistoury, and rapidly cut down to the sac. Once I thought the old man was dead, and stopped long enough to examine him. The face was white and pinched, a cold sweat stood out over him, his skin was cold, and no pulse could be felt at his wrists. He was alive, however, and I lost no time in opening the sac and nicking the ring. The omentum and bowel were in good condition and returned to abdomen.

As soon as this was done, the pulse and

color returned, and the old man began to revive. In place of a grooved director, I used a sharp pointed probe to lift the different layers, and I cut along the probe with scissors. This I found just as good as a director. In dividing the ring, I slipped the knife in flat with the sac, being careful not to let it farther in than necessary. Then by turning it on its side like a tenotome the ring was nicked.

The conjoined tendon was carefully stitched to Poupart's ligament by heavy catgut, and another row of sutures until the skin was placid. It was dressed with gauze and iodoform, and made an uninterrupted and perfect recovery. I understand, however, that some months afterward the hernia broke through again, and is now retained by a truss.

From these cases and others I would draw the following conclusions:

In a case of strangulated hernia, give chloroform at once and reduce by taxis if possible. In most cases this can be done. Do not manipulate too long, however, if you fail. Very carefully prepare the site of operation, your instruments and your hands. Asepsis is much more important than antisepsis. With clean hands, clean instruments and clean sutures, there is little danger in herniotomy—not nearly so much danger as in delay with a strangulated hernia.

No matter how great the collapse, if you can reduce the strangulation before the patient dies, you have a chance to save him.

If the diagnosis is uncertain, "In intelligent doubt operate;" at least make an exploratory incision.

Unless the case is very recent and you are very sure of the condition of the bowel and omentum, do not hesitate to open the sac. You may return the bowel to the abdomen without reducing the strangulation, unless you open it, and you must be sure both omentum and bowel are healthy enough to be returned. If the omentum is black and ulcerated, tie it with catgut and cut it off.

Carefully separate adhesions.

If the bowel is ulcerated and too unhealthy to be returned, it may be opened and stitched to outside opening. A section could be taken out and the cut ends united at once, but it is a more dangerous operation, and may be left to a subsequent time. If in doubt as to the condition of the bowel, leave it in place. After dividing the stricture, pack the wound with gauze, and examine it until satisfied what should be done with it.

After a herniotomy, always undertake a radical cure of the hernia. It will add little or nothing to the risk, and will often succeed in a complete cure. Silk-worm gut would probably be a better material than catgut in an old and large rupture for the internal sutures.

No laxative is needed after reduction of a strangulated hernia, and with strict aseptsis and antiseptsis, no opiate will be needed, as there will be no pain, no fever, and no pus.

Some Observations on the Vomiting of Pregnancy.

BY B. J. WETHERBY, M.D., Arlington, Kansas.

Every physician who has had an obstetrical practice covering even a comparatively small number of cases can recall some of almost uncontrollable hyperemesis in which he has been put to his wit's end to find a remedy or devise a method of procedure by which his patient may be relieved of this distressing symptom. The materia medica has been ransacked, and almost every drug in it has been tried in the vain search for a specific. Sometimes the very first prescription benefits, and we think we have found it; but as we grow older and our experience broadens, we come to distrust all remedies, and to rely upon none in this class of cases.

The reason for our want of success is our blindness in prescribing drugs without first carefully finding out and removing the cause. A correct diagnosis is absolutely necessary. Vomiting is only a symptom, and pregnancy the excitant, while the actual cause often lurks in the background, and has to be persistently sought for to be found and recognized.

Vomiting of pregnancy is conceded by all authorities to be of nervous origin. It is in

fact one of the best examples we have of reflex nervous action.

The disproportion between development of the womb and the growth of the ovum is, I believe, one of its most frequent causes, resulting in stretching or tension of the uterine tissues. When the development of the womb keeps pace with the growth of the ovum, this condition does not obtain; and if there is no other pathological condition present, pregnancy goes on without the occurrence of vomiting or even nausea. Indeed, some women enjoy better health when pregnant than at any other time. The vomiting due to this cause usually ceases after the second or third month; probably the womb adjusts itself to the new condition of things, and the disproportion no longer exists.

Another very frequent cause is found in a hyperesthetic condition of one or both ovaries. There may be no pathological changes in these organs other than a tenderness due to a congestion or low grade of chronic inflammation, but their intimate connection with the womb, as well as the mechanical pressure upon them of the enlarged uterus, frequently causes the most obstinate nausea and vomiting, which may continue to very near the close of pregnancy, and may require the induction of abortion to save the patient's life.

Lacerations, erosions and ulcerations of the cervix uteri are prolific sources of vomiting, as are also endometritis and endocervicitis. The reason, admitting the theory of reflex action, is obvious, and needs no comment.

Sometimes the cause is in the gastro-intestinal tract itself, and is simply aggravated by pregnancy. Under this heading may be mentioned gastric ulcer, chronic constipation, indigestion, both intestinal and stomachic, piles, etc.

Notwithstanding these numerous causes, which can usually be demonstrated, cases occur which baffle the most expert diagnostician. Especially is this the case in the higher walks of life, with women of a nervous temperament, who indulge in the luxury of an occasional attack of hysterics. It would seem to the uninitiated that these latter cases would, in the absence of any known pathological lesion, be very easily managed; but such is far from being the case. I remember very distinctly a case to which I was called in the beginning of my professional career. A young woman, aged about twenty years, pregnant for the first time, began vomiting almost as soon as conception took place. She vomited everything taken into her stomach, even to a sup of water; and the odor from the kitchen was intolerable to her. Vomiting took place on an average once during each of the entire twenty-four hours. This condition of things persisted day after day in spite of my efforts, and I think I used every remedy that has been advised, and several that had not. I could find nothing to account for it except a hysterical tendency. The condition of my patient becoming alarming, I proposed the induction of abortion in the second month, and was promptly dismissed. An old ignoramus, who never saw a medical college and obtains his knowledge of medicine from Pierce's Common-Sense Medical Advisor and Gunn's Family Physician, was subsequently employed, and carried the case along until the fourth month when the vomiting practically ceased.

The treatment, if successful, must be suited to the conditions present. There is no specific, and no single line of treatment.

In the first and second conditions mentioned above, rest in bed and the use of a utero-ovarian sedative is indicated. As a medicine of this class, I know of nothing better than the liquor sedans, made by Parke, Davis & Co., of Detroit. It is a combination of viburnum, hydrastis, and picidia, and is sedative to both the uterus and ovaries. It should be given in drachm doses three or four times a day, and its use should be persisted in for weeks. This should be aided or seconded by the patient's assuming the genu-pectoral position twice a day for a period of ten or fifteen minutes. If there is constipation it shoud be carefully attended to. For this I prefer the Hungadi water or the Carlsbad Sprudel Salt.

Lacerations, erosions and ulcerations of the curvix require the same treatment as in the non-pregnant state; and right here is where many physicians fail of success. They

are timid about making vaginal examinations and applying treatment in this condition, for fear of inducing abortion. The gravid uterus will tolerate almost any application or manipulation short of entering its cavity, and even this does not always cause the womb to empty itself.

For laceration with eversion and ulceration and consequent irritation of the cervical nerves, I prefer applications of nitrate of silver solution, varying in strength from ten to twenty grains to the ounce. Hydrastis, full strength of the colorless, does nicely, but is slower in its action, and must be applied oftener, every second or third day, while the nitrate should not be employed oftener than once a week. In the conditions mentioned, special intercourse must be restricted if not entirely prohibited. I have known more than one case of hyperemesis gravidarium to cease spontaneously upon the husband's occupying a separate bed, to be followed by fresh attacks directly traceable to the nocturnal visits of a too amorous husband.

Gastric ulcer and gastro-intestinal derangements should be treated in the non-pregnant patient.

Often, where a definite cause can not be found to exist, and we are obliged to proceed empirically, good results can be obtained in many cases from the use of salol in five grain doses several times daily. A little good brandy or whisky will often control a paroxysm when all other means seem to have failed. And so on, through a long list of remedies.

The object of this paper is not to suggest any special line of treatment, but to emphasize the fact that the vomiting is not due primarily to the pregnancy, but that the latter simply aggravates some other already existing morbid condition.

THERE are still some State Society papers which have not been published. Some of them have been held over and have not appeared in their regular order, but they will all be published in due time. Those desiring reprints should notify the publisher at once.

Convulsions in Infancy and Childhood.

Read before the Topeka Academy of Medicine and Surgery, August 4, 1891.

BY

M. R. MITCHELL, M.D.,

PROFESSOR OF OBSTETRICS AND CLINICAL MIDWIFERY IN THE KANSAS MEDICAL COLLEGE.

A description of the nature of convulsions is reasonably divided into two classes, viz., tonic and clonic. The former applicable to a continuous rigidity of the muscles, and the latter to cases where there is alternate contraction and relaxation of the muscles.

Convulsions should always be considered as symptomatic of abnormal conditions.

In respect to the conditions essential to the production of convulsions, Marshal Hall, with propriety, uses the terms centric and eccentric. The former or centric is applicable to primary lesions located in the brain. The latter, eccentric, to lesions more or less remote from the brain. In the former we have direct, and in the latter reflex influence.

The malady is sometimes exhibited locally, and it may be in the slightest degree, as in contraction of the carpo-flexor tendons of one or more fingers, as in the apparent twitching of the muscles of the face or of the eyes. It may appear in one side only, whilst the other is not at all or at least but very little affected.

Again it may exist generally throughout the muscular system.

The trouble may be found in all periods of life from the earliest infancy to old age.

It is, however, chiefly limited to the first five years of life.

As indicated by the title of this paper, it is intended that the discussion shall apply to the subject as it relates to infancy and early childhood.

That it is an affection of frequent occurrence and of great gravity the records of every locality and experience of every physician can tell.

From Dr. Meigs we have learned that in the city of Philadelphia, during the five years from 1844 to 1848 inclusive, there were 1,729 children under fifteen years of age died of convulsions.

The health reports of the city of Philadelphia, for the ten years from 1876 to 1885 inclusive, show that 7,463 deaths among those under twenty years of age were stated to have been due to convulsions. And that about 66 per cent. of these deaths occurred among children under one year of age.

Years ago Dr. Charles West gave some interesting statistics taken from official reports, showing that in the city of London 30.5 per cent. of deaths from all causes in children under one year of age were from diseases of the nervous system. And that 73.3 per cent. of deaths resulting from all diseases of the nervous system were caused by convulsions. Thus showing that about 22 per cent. of deaths from all diseases under one year of age were from convulsions.

Dr. West also shows that the percentage of deaths from convulsions very greatly decreases from one year old to fifteen, so that at the latter age the percentage is exceedingly small.

This proves the great frequency and to some extent the gravity of the malady to infantile life.

It should, however, be borne in mind, that the statistical estimates as to convulsions being causative of the many deaths may reasonably be received with considerable latitude, for as we have already intimated, the convulsions incidental to the death of the child are symptomatic of some lesion, which lesion may of itself have been of such serious character as to have proved fatal.

It is maintained that in the very young the cerebrum, or the higher brain centers, are comparatatively quite imperfectly developed, whereas the development of the lower brain centers including the medulla oblongata, is far in advance. And thus the reflex mechanism of the nervous system of the infant is in the ascendency.

The brain cells in infants being imperfectly developed, it is more irritable, unstable, explosive; in a word there is more convulsibility. But as age advances, the brain, under proper nutrition, rapidly matures and gradually attains a controlling power over those causes which tend to produce excitability of the spinal cord.

The predisposing causes of the greater frequency of convulsions in infancy are mainly two, viz.: the greater susceptibility to disordered conditions of the brain, and a want of controlling power of the brain over the spinal nervous system.

There are certain precursory signs of the approaching attack of convulsions, which may or may not be observed by the mother, but which should clearly warn the observing physician of the pending danger, and warrant his prompt attention. There may be a general nervous condition of the body, heat of the head, prominence of and forcible pulsation of the anterior fontannelle, ossillation of the pupils of the eyes, a listless attitude, twitching of the muscles of the mouth, the carpo-flexors of the fingers and rotary muscles of the forearm, the babe not catching the mother's eye with a happy recognition as it was wont to do. Sometimes it will quickly go to strangers from whom before it would shrink with fear.

It sometimes, however, comes on suddenly without presenting any previous indication of danger, perhaps even while sleeping, and the mother is suddenly startled with the frightful view of her baby in convulsions.

The causes of the convulsions may be said to be numerous.

The frequency of the phenomena and the great variety of conditions under which they do occur, make it often very difficult to determine what it means or where the disturbing agency may be located.

Recent investigations tend to show that the spinal cord proper, or all below the medulla oblongata, is simply the conveyor of nervous impulses, and not the direct originator of the muscular agitation.

The processes by which convulsions are produced may be said to be very obscure still. Various theories have been advanced, as for instance the loss of blood or the prevention of its proper flow to the brain, the rapid destruction or the transformation of the red blood corpuscles, and the results on account of irritation.

On the other hand, Brown-Sequard considers that in case of hemorrhage, as in asphyxia, there is an accumulation of carbonic

acid in the blood, which, irritating the nerve centers, causes the convulsions.

Children are not alike susceptible.

The nervous system of some is more readily impressible than others.

The predisposition is somewhat peculiar to certain families, affecting one or more, and sometimes all of the children when quite young.

The convulsions must then depend upon abnormal conditions existing or produced in the great nerve center, the brain.

These conditions, too, are very often veiled in obscurity.

The causes of these conditions are represented by two classes, viz., direct or centric, located in the brain itself, and reflex or eccentric located in organs more or less distant from the brain.

Among the centric causes may be mentioned the nervous forms of congestion: meningeal hemorrhage, effusion, nervous stasis, toxæmia, tumors and innutrition of the brain.

Among the eccentric causes may be mentioned dental, gastro-intestinal irritation, general fevers, fright, and many other causes which irritate the peripheral nerves.

Often we are unable to trace to any cause, and have to fall back upon the convulsive tendency possibly inherited.

Lauder Brunton considers that the children of drunkards may have convulsions in early life, having had communicated to them from the parent, among other morbid conditions, an abnormal reflex-excitability and tendency to convulsions.

As to the prognosis. In the milder attacks these little patients will sometimes recover without any special treatment, and the majority of cases are amenable to treatment if rendered promptly. But this we should remember, as a rule, that convulsions in young children should always be regarded as indicative of a possible serious lesion. For even sometimes where there is but a functional disturbance, as for instance irritation of the pneumogastric nerve, there may follow such reflex nervous procedure as to occasion cardiac and respiratory interruption which may quickly bring about a fatal result.

As to treatment, it should vary according to circumstances. But in a general way two objects should be kept in view, viz.: First, treat the convulsions; second, treat the cause.

This class of cases especially demands of the attending physician sure and quickness in diagnosis, coolness, promptness, and persistency in treatment.

To illustrate my suggestions in regard to the treatment, I will call your attention to a few cases which have been under my care.

CASE 1. In 1888 saw a little girl aged two years in convulsions which seemed to continue without any abatement. I gave two grains of hydrate chloral hypodermically in the arm, and repeated the same in a short time, partially abating the convulsions. I followed this with bromide of potash and hydrate chloral in repeated doses by the mouth. Evacuated bowels with dose of castor oil. Patient recovered with severe abscess in the arm from the hypodermic injection of chloral.

CASE 2. In the summer of 1882 I saw a boy three years old, who was on the day previous taken with bilious vomiting and fever. I found him in violent convulsions. I administered chloroform by inhalation persistently until the convulsions abated, but found they would return whenever the anæsthetic was suspended. So I kept the patient under its influence for about two hours. I also administered bromide of potash and hydrate chloral by the mouth. The bowels were moved by purgative. The bromide and chloral were kept up for twenty-four hours, when there was no more return of the convulsions.

CASE 3. In October, 1885, an infant, male, one month old, was having green discharges from the bowels for two or three days. It was taken worse with elevated temperature, hot head, quick pulse; there appeared a slight rigid condition of muscles of the limbs coming on every few minutes. The hands would firmly close with thumbs in the palms. The pupils were contracted, and did not respond to the light; the anterior fontannelle was full and hard; there was labored breathing most of the time with

moaning sound. I applied cold water to the head, gave calomel with castor oil, and soon followed this with an enema of soap and water, evacuating the alimentary canal freely. I then followed this with a rectal injection, three grains each of bromide potash and hydrate chloral. The nervous symptoms soon abated. Kept up the bromide and chloral injections occasionally for twenty-four hours. Patient recovered.

The treatment in the three above-mentioned cases was attended with success, but I will now report one case which was unsuccessful.

Some years ago a little girl fifteen months of age, fairly well developed, and previously enjoying fair health. After seeming a little restless during one night, suddenly in the morning, about 7 o'clock, the baby was taken in convulsions, which were continuous without any intermission. I called in consultation. We administered a dose of castor oil with calomel, and followed this soon with an enema which speedily produced a free evacuation of bowels. The effort was made to give the little patient bromide and chloral, but it could not swallow enough to do it any good. An attempt to administer chloroform by inhalation was made, but it was not pushed vigorously enough to control the violent convulsions which still continued, and the patient became cyanotic, and died in five hours from the commencement of the attack.

In this case there was probably intestinal irritation acting as the cause by reflex influence, and death resulted from respiratory and cardiac interruption, aided possibly by the toxæmic effect of carbonic acid in the blood. In this instance the convulsions were undoubtedly the immediate cause of death.

From some experience and investigation of the subject in regard to the treatment, I present the following conclusions, viz.: That in the mild attacks, the treatment is very simple, such as a warm bath with cold to the head, quietude, and correction of any disordered condition of the gastro-intestinal apparatus. Dentition is not as frequently the cause of convulsions as is commonly supposed, and the practice of cutting the gums is rarely proper.

In the more violent attacks, where the convulsions are continuous and persistent, even when there is no local serious brain lesion, the convulsions may soon produce death. In such cases, besides using appropriate means to remove the cause, the convulsive condition must be directly and promptly controlled. Chloroform is perhaps the most efficient and safest remedy. It must be administered vigorously and carefully under the direct supervison of the physician himself.

Hydrate of chloral, used by the rectum or hypodermically, is very efficient.

Hypodermic injections of the sulphate of morphine may be used successfully, but it is certainly unsafe in young children. To secure a more permanent controlling effect, some one of the bromides should be given, and the bromide of soda is probably the best.

Address at the Opening of the Kansas Medical College, Sept. 15, 1891.

BY W. L. SCHENCK, A.M., M.D.,
PROFESSOR PREVENTIVE AND STATE MEDICINE.

Mr. President, Colleagues, and Fellow-Citizens:

While members of a profession that deals with the will, with the motives from which actions spring and with conduct, and while those whose science embraces all the interests of an immortal soul and reaches from eternity to eternity are expected to grow eloquent on occasions like the present, the doctor, who prescribes for the aches and pains of humanity, and whose life is consumed in battling disease, is permitted to hobble on halt and sickly as those who apply to him for relief.

In addressing you upon this anniversary of the organization of the Kansas Medical College, let me say first if health is better than disease, if life is better than death, and if, as some one has said, conduct is seven-eighths of life, both theology and law have much to do with that science that seeks to

secure the development of a physical organism through which the soul may reach all its earthly possibilities and its preservation, until it shall "come to the grave in full age, like as a shock of corn cometh in his season."

If indeed this body is the temple of the holy ghost, the minister cannot consent to its profanation, but must second every effort that tends to secure a pure and holy temple.

Men and women are the capital of the church militant. They put their hands into their pockets that they may glorify the church triumphant. They are the capital of the pastor. Like Aaron and Hur, they hold up his hands until Israel prevails. If he would sustain the relation of hand to pocket, and keep willing hands at work, he must do what he can to sustain the pulsations of willing hearts. The minister may be in the spirit on the Lord's day, and every word he utters full inspiration, but if his congregation sit in a sea of carbon dioxide, he preaches to stocks and stones; and if the sea rises above his pulpit, it will drown his inspiration as surely as the world, the flesh, or the devil. So interested is the minister in the methods of the scientific physician and sanitarian, that a doctor of divinity (Lucius Blakesley, D. D.) is no unimportant member of our board of trustees.

As president of the board, we have a learned attorney, (Hon. John Martin,) and among his colleagues, the chief justice of the state, (Hon. A. H. Horton,) and the judge of the district court, (Hon. John Guthrie,) the last being professor of medical jurisprudence. Thus we recognize the relationship between law and medicine.

Medical jurisprudence means all its definition indicates—"that division of medical science which treats of the application of medical knowledge to the purposes of law" (Gould). Law has no higher purpose than the protection of life and health. Medico-legal science, created for the development, preservation and protection of human life, health, and happiness, should fully empower the judge to secure and protect these highest and holiest interests of the citizen.

The constitution of the national government wisely provides that its law-making power shall have jurisdiction over the common defence and general welfare of the nation, including defence against the poisoned arrows of disease that are borne on the wings of commerce, and destroy more ruthlessly than an army with banners, and against which the citizen in his individual capacity has as little power to institute protection. The general welfare requires a national department of health endowed with authority to prevent disease and prolong life, and to establish a national standard of knowledge to be attained by all who enter the life-saving service of the government, whether to trust the injuries and relieve the diseases of the few who enter its army and navy, or of the many who constitute the great body of the American people, so that all may know that "when on life they're tempest driven," the protecting ægis of a great government will shield them from the base.

Hornbooks, of whom death rightly complains,

> "Where I kill one by fair stra' death,
> By loss o' blood, or want o' breath,
> This night I'm free to take my aith,
> That Hornbook's skill
> Has clad a score i' their last claith,
> By drop and pill."

That health may be preserved by legal enactments properly executed, as well as by medical education, we have on our board of trustees those learned in legal science.

These, and all who love their own lives and the treasures about their hearth-stones, every patriotic citizen, who loves country and countrymen, every philanthropist and christian who loves his neighbor and his God, is interested in advancing that knowledge which shall bring to them healthy wives and long and happy lives.

The Kansas Medical College was not organized until a better system of medical education had been evolved than the old hotch-potch method, where the plëb and the senex sat on the same seat and listened to the same lectures; where the babe in the science was taught amputations and ovariotomies before he knew a vein from an ar-

tery, or an ovary from a uterus; when he listened to lectures on diverted functions and pathological differentations before he comprehended normal structures or physiological action.

What wonder that he often became disgusted with the most beautiful of sciences and followed medicine as a trade, turned quack, or left the profession.

To-day, as never before, the profession recognizes that education—*e duco*—the drawing out of mind, the development of mental strength and acumen, ability to weigh facts, and reason from cause to effect and from effect to cause, is a prerequisite to a comprehension of the relations of soul and mind and body, in health and disease, and of the causes that produce pathological expressions and the processes by which they may be restored to physiological conditions.

The Kansas Medical College demands as a precedent to matriculation an academic education, and to graduation, a graded course of at least three years.

There was a time in the history of civilization when the lordly savage strode with stately step over the beautiful prairies of Kansas, while at respectful distance followed his squaw and slave with his pappoose on her back and his household goods on her shoulders. To-day, in intellectual and moral culture, woman is the acknowledged peer of her lord, and all departments of life are open to her, except, perhaps, casting ballots and being governors and presidents, though she is a laurel-crowned queen, and as such may well blush for some of the episodes of a son and heir.

Her quick perception, her correct judgment, her tender sympathy and her delicate touch, with proper education, find a special mission in the management of the diseases peculiar to her sex and to childhood.

And so we find among the matriculants of this college a fair proportion of females. The thought, at one time so common, that the study of the human form divine would unsex her, destroying that modesty which is her strength and crown, has proved unsubstantial as the fabric of a dream.

In the medical college, as in co-education elsewhere, the proper association of the sexes mutually refines and strengthens, and whether the young lady educated in medicine engages in practice or becomes absorbed in matrimonial relations, her knowledge will be a blessing to her family and to that sex from whom springs largely the vigor of the race.

So narrow is our vision of the future, that in every age there have been those who have believed the millennium at hand, and that little remained to be solved by succeeding ages. Despite the wonderful activity and progress that has marked the nineteenth century, who shall say that if we revisit the earth at the close of the twentieth, we will not be filled with the same wonder and surprise that must characterize our revolutionary sires, if they are permitted to look down upon us to-day and behold the full colonies of the Atlantic coast swelled into a mighty nation, reaching from ocean to ocean, bound together with bands of steel, over which, with tireless tread, the steam-fed horse bears the commerce of the world, and everywhere the flag of the free; friend talking with friend in distant cities, as if tete a tete; the iron arms of machinery everywhere substituting brawn and nerve, and moving with accuracy and rapidity unknown to mind and muscle; the surgeon severing nerves without pain, and arteries without hemorrhage, his amputations and laparotomies healing without suppuration, and disease tracked to its home and destroyed before it can infect mankind. And yet, how little do we know? The higher we ascend the broader the outlook. Every added power to the telescope reveals new worlds in some hitherto unknown universe, and every added power to the microscope reveals a new earth, unseen wonders in the world in which we live. We do not yet know who people those distant spheres. We do not yet comprehend the significance of the microscopic entities within and about us. Much as we know of the laws of life, the causes of decease and the methods of cure, we do not yet know what life is, whence it came or whither it goeth; we do not know how it is connected

with or how it vitalizes the matter through which it acts. We have only just now learned that these lives of ours, of which a little while ago we were wont to believe each an individual whole, are composed of untold myriads of microscopic cells, each possessing a life of its own.

"Be not wise in your own conceit." Great as has been the progress, rapid as has been the evolution of this last quarter of this wonderful century, we need not weep because there are no more worlds to conquer. Whatever remains to be discovered or applied in other departments of life, in medicine we only know enough to know how little is known of the mysteries of life. While there may be those among us as wise as Solomon's fool, do not be ashamed to acknowledge that there are things that you do not know. Wise and true men are not satisfied to always reap where others have sown, to live on bread others have earned; to tread the beaten path, but will ever labor to make it broader and life larger because they have lived.

Do not talk, as it is the fashion with some of the "firm foundations of the germ theory," or of any other theory. In physical science nothing is firm until it has been demonstrated, and when demonstrated scientists are a unit. All science had a theory, but all theories are not science. *Scio*, I know; *Theoria*, speculation. Remember it is those who know it half who speculate, who "speak often and are always wrong," who cry most lustily "Lo here! Lo there!"

Science is the voice of Him who is ever in harmony with Himself; who created and who upholds all worlds. From Him there never eminated diverse eons. "In the beginning was the word;" the creative power that spoke into existence all the worlds and all that in them are, and all the laws by which they move and live. The philosophy of the most cultured Greeks and Romans with its hosts of contending gods finds no place in modern science. There is no power save that which eminates from Him who is from eternity to eternity. No conflicting laws in all His universe. He is ever in harmony with Himself.

"In the beginning was the word, and the word was with God, and the word was God."

Man may formulate antagonisms, and thus prove how far he is from God. He may believe, if he can, that a grain of Bel. or Bry. is less than its hundredth part, or that its thirteenth attenuation, its

$$\frac{1}{100,000,000,000,000,000,000,000,000,000,000}$$

th part is greater than the whole, but while God's laws prevail, a drop will be less than the ocean, a planet greater than a grain of sand, and no amount of subdivision will ever spiritualize, give dynamic force to matter.

Believe, if you can, that the ideal man is of the past, the associate of mastodon and megatherium, but labor for more perfect types of life. Remember that evolution never goes backward, and that today, as never before in the history of the race, the whole civilized world cries "forward." Education evolves liberty, and education demands opportunity.

Amid the thunderings of Sinai, man was commanded to love supremely the All Good, who waters all lands with the dews of Heaven and warms all hearts with divine sun rays, and to work with Him in uplifting humanity. While individualism, which is the strength and support of free government, exists among men, you cannot legislate all men good or learned or rich. The full inspiration of the All Wise has fallen upon few, but the generosity of the Truly Great has blessed all. Freely they have recieved, freely they have given.

In the interest of humanity, give your best service to God's poor and stand with them against every oppressor; but for the dignity and honor of science, demand an honorarium of those able to pay worthy the labor and skill required.

You belong to a profession that seeks to uplift humanity. The latch-string of the rich and the poor hangs out for you. In all your intercourse with mankind, make the Great Physician your exemplar. While

gentle as the tenderest woman and full of benevolence, his was the dignity of a god. He stooped to no meanness. He bowed to no wrong. When the tempter offered him all the kingdoms of the world for his worship, his only reply was "Get thee behind me, Satan." Power to accumulate gave him no right to that which of right belonged to others.

In this matter, the medical profession is a law unto itself. While the ignorant may sometimes think its charges exhorbitant, no distinguished physician ever became a millionaire. He has ever found too wide a field for charitable labor. While a few honorable men in the profession have grown rich, it has been through a judicious investment of inherited or married wealth. Most physicians have sought to live like gentlemen and educate their families like christians, but few have earned more than a competence from their professional labors. Many have laid up treasures in Heaven.

Restore the sick to health, if need be, without money and without price, and above all, as opportunity presents communicate to your patrons such knowledge as will enable them to preserve health. Service in this direction may not be appreciated, but let others bear the sin. Teach the community that public parks and baths in all centres of population are essential to health. Tell them of the beneficence and of the dangers of sunshine and shade; that while nothing can be more æsthetic than flowers and plants and trees, and that while there exists between plants and animals one of the many beautiful compensations of Providence, that trees too near the home shut out necessary sunlight and air, and become the fruitful source of disease. Trees planted in the parking outside the walk are beautiful and healthful, but unless the home stands far back on the lot, the space between it and the walk should be devoted to lawn and flowers and shrubs and sunshine. When trees are planted inside the sidewalk and their removal is advised, a voice within will ever plead in plaintive tones,

"Woodman, spare that tree.
In youth it sheltered me,
And I'll protect it now."

The top of a beautiful tree may well bring moisture to the eye; but if too near the house, its fruitage may be death to those dearer to us than life, and floods of tears.

But this is not the time to discuss hygienic questions; yet, while I say to you communicate such knowledge in season and out of season, permit me, out of season, to add a word on the importance of public baths.

Good old John Wesley said "cleanliness is next to godliness." Had he been *au fait* in hygiene, he would have said "cleanliness is godliness." While civilization has made great progress, while human sympathy has been enlarged, human life prolonged and its conditions ameliorated, the city of New York alone giving some years as high as three and a half millions to her eleemosynary institutions, and annually extending aid to over half a million of people, water has been "stranded on the stream of time."

In its provisions for personal cleanliness, the foremost city of our age is far behind the cities of ancient Greece and Rome. The great Roman aqueduct brought from the mountains 400,000,000 of gallons of purest water, and under Constantine there were a thousand baths where the poorest Roman could wash and be clean without money and without price, while the rich vied with each other in adding artistic embellishments and luxurious apartments to their baths. From the emperor to the peasant in *balneus salus* was a common faith, and Pliny, in his *Historia Naturalis*, tells us that for 600 years Rome needed no medicine but her baths.

To-day the altar of St. Peter stands on the ruins of the Therma of Titus, while the salons containing the Therma of Dioctition are changed into the churches of St. Maria Diglianopli and St. Bartholomew. Despite her religion and all its miracles since the destruction of her baths, Rome has been ravaged by every form of disease. During the dark ages the bath fell into general disuse, and the climax has been reached in democratic America. While baths are again coming with fashion, in how many of our most luxuriantly appointed private residences are there bathing facilities for those who cook the food and muse the children? The

comfort and health of every community demand baths for all within easy reach of all, and every city supplied with waterworks can at small expense provide for all a daily rain bath, and cities, as well as all organizations employing large numbers of workmen, will be amply repaid by the increased vigor given to their citizens and employes. This bath, while it thoroughly cleanses and refreshes, requires but a small supply of water, is never contaminated with the filth or disease of previous bathers, occupies but little space, and properly constructed practically cleanses itself.

We suggest that the capital city of Kansas, the central city of the Union, and the cold-water city of the world, invites an influx of desirable citizens by utilizing vacant spaces for public parks, and by establishing at convenient points public rain baths.

While we are all proud of this beautiful city let us not rest satisfied until it utilizes all that is known of sanitary science, and gives to every citizen the health, strength and refinement that spring therefrom.

Colleagues of the Kansas Medical College, seek to honor the important positions you occupy as educators of those who are to take charge of the health and life of the people, to do "good work, square work, true work, just such work as is required," and you may feel sure your efforts will be appreciated.

Avoid the methods of the political doctor and the medical quack — cousins germain — who seek to be honored rather than to honor, who prescribe for patients rather than for disease. Burn the midnight oil. Be instant in original investigations. Seek to know the laws by which God rules his universe. Mineral, vegetable, animal move obedient to immutable law, are governed by imperious necessity. Only to the spirit of Him has he given choice. Born of His spirit, he is given dominion and made co-worker with God. In harmony with His laws it is his to mould creation to meet his wants and tastes. He changes the form and combination of the mineral kingdom. He transforms the stamens and pistils of the rose into petals, and makes its color and odor minister to his senses. He develops the sour crab to grape, the bitter plum and peach and orange into most luscious fruit, and the wild beasts are fashioned to his use. Shall he not mould the organic life to which spirit has been superadded until it becomes a perfect instrument through which the soul may reach its highest and noblest aspirations, no longer compelled to cry "the things I would do I do not, and the things I would not do I do. The spirit is willing but the flesh is weak."

It is for us to learn and to teach how this physical man can be mended and moulded until brutal lusts and passions cannot drag man against his will to the level of the beast, and thus to hasten the day when man shall walk with God.

In the wisdom of other ages the venerable Naamothite reverently asked, "Canst thou by searching find out God; canst thou find out the Almighty to perfection?" whilst the smart young Buzzite shouted, "stand still and consider the wondrous works of God." The wisdom of this age says search, find out, know the laws by which He governs the universe, and above all seek to comprehend, to develop, and to preserve all the possibilities of the organism through which the spirit acts, then, with the Great Physician, you can say, "the word is not mine, but his that sent me."

Reports of Four Cases in Spinal Surgery.

BY J. C. McCLINTOCK, M. D., Topeka, Kas.

CASE I. WM. Maike, age 35, in July, 1884, while at work on the walls of a church at a height of twenty-four feet, fell, and struck first at a distance of eight feet on the edge of the gallery on his back, with his feet hanging over the same; from thence he fell the remaining distance, sixteen feet, and struck on the ground. At the second time of striking, he was unconscious.

He thinks his back was broken when he struck across the edge of the gallery. Consciousness was restored in less than five minutes. He said immediately that his back was broken, and asked for "someone to hold his knees down."

The next day he was taken home on a cot in a wagon, a distance of ten miles. He had but little pain or fever for three or four months. During that time he was lifted on sheets; afterwards he could turn himself.

In three days large bed sores were found over the sacrum and on the heels. On about the third or fourth day, the deep sloughs separated; possibly they were bruises. In about a month after that time, the limbs were œdematous, the spinous processes out of line, and the deformity showed plainly.

In May of the following year, 1885, he got about in a wheel chair, and in two months his strength returned. At first the bowels would not move without injection, and then they did without his knowledge. They remained costive, and he would have to take a cathartic about twice a week. Urine was drawn with a catheter three or four times a day for two months.

In June, 1890, he applied to me for treatment. On examination, in consultation with Dr. Lindsay, we found motor and sensory paralysis of the lower extremities. The feet were drawn into a position of talipes equinus. The limbs were apparently as well nourished as the entire body. Over the sacrum a very large and deep cicatrix presented itself, and on both hips were also evidences of former bed sores. The spinous process of the eleventh dorsal vertebra was very prominent, and one-half or three-fourths of an inch to the right of the median line, which indicated a dislocation between the eleventh and twelfth dorsal vertebræ. He had good control of his sphincters.

An operation was proposed, and accepted on the part of the patient. In July, 1890, I operated on him, with the assistance of Drs. Lindsay, Hall, Eldridge, Smith and Scheide.

I made an incision eight inches in length down to the spinous processes, the central part of the incision over the site of the dislocation. The deep muscles of the back were dissected from one side of the vertebral plates, the laminæ divided with a Hey's saw and with bone-cutting forceps. The spinous processes with the laminæ were turned out, thus exposing the cord for a length of about four inches.

The dislocation was found as diagnosed, together with united fractures at several points. A great deal of pressure was found to have been exerted on the cord, and the posterior plates of the vertebral arch were consequently removed, so that there should be no more pressure. Drainage tubes were inserted, and the wound closed and dressed. Primary union occurred.

The drainage tubes were removed in a few days, and the patient was soon out again in his wheel chair. The only improvement noticed in his case was that he obtained motion in his toes, and an increase in the sensibility of the cutaneous nerves. But this much improvement is of no practical benefit to the patient. Probably too much destruction of the spinal cord had taken place, or possibly an earlier operation might have been of more benefit.

Case II. A young man, age 16, giving a very indefinite history of syphilis, came under my care for complete paraplegia affecting the lower extremities. On examination of his spine, I found a tender spot in the upper dorsal region. I gave him specific treatment, electricity, and lastly, blisters. The pain increased very much in his back, and his paralysis did not improve until I increased his doses of iodide of potassium to 100 grains three times daily.

After the use of the iodide had been continued for some time, the pain subsided, but he was still unable to use his limbs. I therefore cut down on his upper dorsal vertebræ, and found a thickening of the periosteum. I trephined the spinal arch, and evacuated quite a large quantity of pus. The wound was then washed out and left open for drainage, after which an antiseptic, absorbent dressing was applied.

The relief of the symptoms of paralysis after evacuating the pus was immediate and marked. The patient got up and walked about in a couple of weeks, using two canes for his support. His improvement was rapid, until a complete recovery took place.

The patient is now and has been ever since able to earn a livelihood as a waiter in a hotel, a position in which the most active movements are required. Large doses of

iodide were continued for some time, then gradually diminished to twenty or thirty grains.

CASE III. David Pugh, a miner, 35 years of age, was injured in the spring of 1888 by an accident in a mine. The top struck him on the back, fracturing the ninth and tenth dorsal vertebræ. There followed an almost complete paralysis of all below the point of injury, and the patient was confined to his bed for a year. By that time a gradual return of motor power made it possible for him to move about with difficulty, aided by two canes. Subsequent to the accident the paralysis of the bladder was so complete that the continual use of the catheter was necessary.

I saw the patient in consultation with Dr. Schenck early in January, 1891, and agreed in his diagnosis of fracture of the neural arches, ninth and tenth dorsal vertebræ, and consequent pressure upon the cord. Persistent stretching and the galvanic current had no effect. The prognosis was that relief of the pressure might be followed by restoration of normal activity in the nerves of the region affected, and that the extent of restoration would be dependent upon the destruction of nerve tissue.

An operation, such as has been described, was done on the 28th of May. Two spinous processes and laminal arches were removed, laying open the spinal canal. It was found that quite an extensive atrophy of the cord had ensued from the long-continued pressure.

The patient recovered rapidly from the operation, and left the hospital for his home near the end of August. There had been a gradual improvement both in sensation and in motion below the point of injury, and sufficient restoration of nervous activity so that he has been able since the operation to empty his bladder partially without the aid of a catheter, though he cannot do so completely. He was entirely unable to pass his urine before being operated upon.

CASE IV. Mrs. R., 56 years of age, fell the entire length of an outside stairway nine years ago. There were severe bruises about the neck and arms; the spine was not examined at that time. She was in time able to walk about and partially to attend to her household duties, though there were symptoms of incomplete paralysis. From the time of the accident she suffered greatly from a constant freezing sensation in her lower extremities. Her feet were so cold that she was obliged to warm them continuously, and even in the heat of the summer she was not able to leave her hot bricks.

Her condition remained much the same until some five years after her fall, when she noticed a projection on her back. Medical advice was sought, but treatment of all kinds, including electricity, failed to benefit her back or to relieve the increased suffering from cold feet.

I was called in August, 1891, to apply a plaster jacket. The deformity could not be reduced, and as the application of a jacket would be useless in such a case, advised the opening of the spinal canal.

August 17th the operation was performed. A double fracture was found in the inferior dorsal region.

The posterior vertebral arches of the five lower dorsal vertebræ were removed in the manner above described, drainage tubes inserted, and the wound closed. Union by primary intention took place.

Immediately after the operation there was only a partial relief from the freezing, for whenever the patient lay on her back the pressure of the soft parts upon the cord brought about the same sensation of cold. In two weeks a plaster jacket was applied, and has been worn continuously. Since the application of the jacket improvement has been very marked. At times her feet are uncomfortably cold, but such attacks are infrequent and of short duration, and the application of hot bricks is no longer necessary.

WOMEN to the front.—The microscipal examination of meat at the packing houses at Kansas City is to be done principally by women.

BE careful of the surgeon who is careless in minor surgery.

Kansas Medical Journal.

PUBLISHED MONTHLY.

SUBSCRIPTION PRICE, INCLUDING POSTAGE:
Per annum, in advance..... $2 00
Single copies..... 25 cents

Subscription may begin at any time. The safest mode of remittance is by bank check or postal money order drawn to the order of the undersigned. When neither is accessible, remittances may be made at the risk of the publishers, by forwarding in Registered Letter. Address

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723 Kansas Avenue.

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TOPEKA, KANSAS, NOVEMBER, 1891.

A Post Mortem Delivery.

SUCH cases are so rare they are well worth noting. Le Progres Medical reported a case in which spontaneous delivery occurred in an advance state of pregnancy some twenty hours after death. Whilst there must be a combination of conditions to make such spontaneous post mortem deliveries possible, the expulsive force is probably furnished by the rigor mortis.

DR. J. A. RAFTER, of Holton, in the employ of Lea Bros., medical book publishers, called on the physicians of Topeka in October, and made a large number of sales. The doctor is peculiarly fitted for anything he undertakes.

IT is claimed that warts are contagious.

THE A. C. E. mixture is considered by Dr. Reeve, of Dayton, as a much safer anesthetic than chloroform.

Tobacco.

The ordinary apology of those who use tobacco is that it "soothes" and helps digestion. Its first perceptible impress is on the nervous system — a sedative action, so marked that in those unaccustomed to its use there is prompt paresis of the pneumogastric with nausea and vomiting, and labored cardiac and pulmonary action. When accustomed to its use it allays nervous excitability — normal and abnormal — and while it "soothes" it begets listlessness and laziness, both inability and indisposition to energetic physical or intellectual effort. Following fast upon the track of these effects we often have in the inveterate smoker a depression that reaches hypochondria, and while "the hair of the dog cures the bite," and another smoke relieves it — soothes beyond ability to note it. When the narcotic impression is gone the condition is aggravated, and there comes the temptation to a stronger anæsthetic, and alcoholism follows. Whether from congenital or acquired weakness those who resort to narcotics and anæsthetics to soothe troubles and nerves that should be relieved by true and energetic manhood are ever liable to dangerous excesses.

Smoking, frequently practiced, lowers nervous tone, giving rise directly or indirectly to a variety of abnormal nervous conditions, from the flattering visions of those surrounded by a halo of smoke, that end in smoke, to an insanity that is as enduring as life; thus soldiers and sailors, who are as a class incessant smokers and chewers, rank first among paralytic lunatics. Nearly all inveterate smokers have irregular cardiac innervation, manifest in irregular, intermittent and palpitating cardiac action. Tobacco is a common cause of death from heart failure. Tobacco amaurosis, optic nerve atrophy and blindness are among the well-recognized results of the tobacco habit. Some opthalmologists avering that the opthalmoscope will separate the smokers and non-smokers in optic nerve atrophy.

The excessive excretion of saliva, under the use of tobacco, leaves a deficiency of the

agent nature has provided for amylicious digestion, and as a large proportion of the food of all nations is amylicious, indigestion with its long train of sequents is largely dependent upon tobacco. And so the soother and the helper of digestion, as all who understand its therapeutic action could easily prognosticate, proves a snare and a fraud.

Among the less common and perhaps less desirable effects of the cigar and the pipe, and perhaps "the chaw," are cancer of the mouth. Every one who succumbs in this direction is not a general of the army or an emperor, and their cases known and read of all men, but few active practitioners have not seen similar cases in the humble walks of life.

MORAL.—What is the duty of the medical practitioner who knows the therapeutic action of tobacco and the pathological sequence consequent upon its habitual use?

Dr. ADELE MCCULLOCH KNIGHT has just died at Vienna. No medical student of modern times has given greater promise of a brilliant and useful life. During her entire course the first honors, prizes and distinctions continually fell to her. Though she has proved that woman may take the first rank in scientific study and investigation, she has proved as well that the body of woman, as of man, will not endure a too prodigal expenditure of vital force.

DR. BENJAMIN HOWARD, of England, says that "traction of the tongue cannot raise the epiglottis, but by sufficient extension of the head and neck, whether by volition, instinct, reflex action, or by effort of another, whether in the healthy, in the dying, or in the dead, the epiglottis is instantly and beyond prevention made completely erect; and by a complete extension of the head and neck the tongue and velum, as respiratory obstructions, are removed simultaneously with the epiglottis; and without a moment's delay the entire airway may be straightened and made free throughout by the nearest person."—*Brief.*

A New Association of Specialists.

THE following letter and resolutions have been sent to a number of physicians for their signature.

A great many physicians, however, who would gladly and heartily endorse and support this much needed movement could not be reached conveniently by letter, and the KANSAS MEDICAL JOURNAL earnestly requests its readers who wish to aid in the formation of this society to adddress Dr. M. B. Ward, Topeka, Kas.

TOPEKA, KAS., Oct. 5,'1891.

To whom it may concern, Greeting:

Attached herewith are preamble and resolutions regarding the organization of a "Western Association of Obstetricians and Gynecologists."

If you desire to co-operate in the formation of this Association, you are requested to affix your name and address to the resolutions, and forward the papers to the physician whose name and address appear next following on the list.

Provided, however, there are other physicians in your city whose signatures can be secured, that you kindly present this matter to them before forwarding the resolutions.

Fraternally, M. B. WARD, M.D.

WHEREAS, The happiness of our homes and the welfare and perpetuity of future generations depend upon the physical as well as the moral status of women:

WHEREAS, The duties and labors of the general practitioners are so varied that it is impossible for them to devote sufficient of time to gynecology to prepare themselves for the great field which this branch of the healing art demands:

WHEREAS, In the great west thousands of miles from the more populous portions of the country, we do not have the advantages of our more favored brethren in the east of attending society meetings where the time is occupied in thorough discussions of the most vital subject of the profession, viz., the diagnosis and treatment of the diseases peculiar to women:

WHEREAS, In no other way can the members of the profession gain so much of useful knowledge as from personal interchange of experience and methods, therefore,

Resolved, That we the undersigned physicians, do hereby pledge our hearty co-operation and personal support in the organization and perpetuation of a society to be known as the "Western Association of Obstetricians and Gynecologists."

Resolved, That the members of this Association shall consist of such members of the professions (regular) who are giving special attention to the practice of obstetrics and gynecology who reside in the following states and territories, to-wit: The Missouri River cities of Iowa and Missouri. The states of Kansas, Nebraska and Colorado. New Mexico, Indian Territory and Oklahoma,

Resolved, That the meeting for the organization of this Association shall be held in the club-room of the Copeland Hotel, in Topeka, Kansas, Tuesday, December 29, 1891, at 3 o'clock p. m.

Resolved, That we will, if possible, be present in person, but if not, will forward our suggestions regarding the scope of the organization, the officers for the first year, and the time and place for holding the first annual meeting.

The St. Louis M. V. M. A.

At the recent meeting of the Mississippi Valley Medical Association in St. Louis, which from the extended advertising given it should have had a very large attendance, there was rather a small crowd. The house was well filled on the second day by the influx of students from the various colleges.

By some misunderstanding the arrangements for reduced railroad rates came near being a failure, and as the matter had not been adjusted at 6 o'clock Thursday evening many of the physicians were compelled to pay full fare home. It seems the new regulations require one hundred certificates to be presented before any of them are signed.

This meeting was the best in the history of the Association. Though the attendance was not as large as might have been expected, it was marked by the presence of many noted men from various parts of the country. The papers were exceptionally good, and the discussions displayed the learning and skill of the gentlemen in attendance.

Much interest was taken both in the papers and in the discussion of them.

The president of the Association, whose pleasant address, grace as a host, and ability as a presiding officer, won the respect and admiration of every physician present, was Dr. C. H. Hughes, of St. Louis.

The committee of arrangements, of which Dr. I. N. Love was chairman, had done its work well, and nothing was lacking to make the meeting a success and the stay of the visiting physicians a most delightful one.

Receptions were given on Wednesday evening by Dr. I. N. Love, Dr. C. H. Hughes and Dr. Y. H. Bond at their various beautiful homes, and every gentleman who attended felt well repaid by the cordial greetings and pleasant association with these gentlemen and their families.

On Thursday evening the members of the Association gathered at Lindell Hotel where the boards were ladened with delicious viands and sparkling wines, and when the cravings of the inner man were satisfied the banquet hall rang in unison with the musical rhyme and mirthful jest of many a delighted guest.

Not till Friday afternoon was the climax of their hospitality reached, when after the adjournment of the Association, a line of seventy-two elegant turnouts were drawn up in front of the hall and everybody invited out for a drive. First to the fair grounds, a lunch at the Jockey Club House, then to Forrest park, and from there to Tower Grove and back to the city.

As we rolled along in one of their elegant Victoria's toward our train we were honest in our thought that though there are doctors and doctors, St. Louis doctors are ahead of them all in hospitality; that the committee on arrangements had walked over the opposition of physicians and newspapers to a grand success; that for recreation a good

medical meeting where there are good papers to hear, bright men to talk, nice things to see and tempting things to eat is the place for a

DOCTOR.

AMONG those who have gone to the grave full of years and full of honor may be named Fordyce Barker, M.D., L. L. D. Born May 2, 1818, he took the degree of A. B. at Bodsin, Colorado, in 1837, and of M.D. in the same college in 1841. After filling useful positions in life, on the 30th of May a ripe scholar, a skilled physician and a christian gentleman passed within the pearly gates.

THE nurses of this city have established a register where each one will register when engaged and when open for engagement, so that any one desiring the services of a professional nurse can easily find one by referring to the register. This is a step in the right direction, and will be a convenience to both physician and nurse. The register will be kept at Swift & Hollidays. See advertisement on page 21.

The Monthly Balance says if the present movement among the farmers continues to gain ground it will soon be necessary for the railway employes of the country to take a hand in politics.

The Railway Age quotes this under the head of the surgical department. Railroads that think a pass over a section of their road given to other employes in addition to regular pay compensates the local surgeons for the most ready and accurate knowledge known to the profession would likely find them in sympathy with the farmer.

When a medical advisor mixes things in that way we naturally expect among his editorials such items as "We pride ourselves on having the best remedy for asthma. It is harmless; it is reliable. Send 25 cents for a box."—*Medical Advisor and Farm Help.*

SOCIETY PROCEEDINGS.

Topeka Academy of Medicine and Surgery.

THE regular monthly meeing of the Academy of Medicine and Surgery was held in Lincoln post hall Tuesday evening, Oct. 6, 1891, President Dr. T. W. Peers in the chair. The other physicians present were Mitchell, Sheldon, Cannon, Pelton, Lindsay, O'Brien, Ward, McClintock, Barnes, Longshore, Minney, Magee, Smith, Rodgers, Lyman, of Manhattan, Hamilton, of Auburn, Powell, Schenck, and Limmer.

The first paper of the evening was by Dr. D. R. Pelton, Neurologist for the A. T. & S. F. R. R. Employes Association, on Surgi-Repair, of which the following is a synopsis:

We often speak in a boasting way of our power to heal, but were it not for nature with her store of vital power, we would have to bow our heads to the inevitable condition, necrosis.

He then proceeded to show how nature repaired a wound.

1st, by first intention, when the parts were aseptically clean, and the parts in close apposition. How the tissue cells were changed to amœboid cells, and plastic matter thrown out; how they fused with those of the other side; how each tissue was repaired from the cells of its own structure, and not from leucocytes; how the plastic matter contracted, drawing the surface closer together, and the superfluous leucocytes and amœboid cells were absorbed instead of discharged as pus, and the wound was closed with the least possible loss of substance; how the cells were tubulated to form the capillaries and axis cylinders of nerves, also united with slight pain, inflammation and constitutional disturbance, showing what nature could do when perfect cleanliness existed; and no antiseptics were used, and said scores of people would say the reason of primary healing was absence of microbes. But he went on to show that every tissue was influenced by the trophic nerves which cause the anahalic

changes that take place. And stated that to active circulation, constitutional taint, loss of arterial tension and trophic irritation was sufficient to cause pus.

Then after stating that a certain author claimed "no microbes, no pus," said he was not ready to accept it.

He then went on to show how nature repaired a wound by second intention or granulation.

He then followed the course of the excitement caused by the injury in the nerves, resulting in reflex congestion, inflammation, and the migration of leucocytes into the perivascular spaces, then extending upon the wounded surface, so far it being the same as in the closed wound. Being separated from the opposite surface, with no protection, the effort of first intention was aborted, and nature was forced to the generation of tissue from each structure of muscle, nerve and bone. The granulating cells were formed by the division of the tissue cell.

He stated that as a result of non-union undue action was caused, and with the aid of irritants of air, tissue cells and corpuscles which were in super-abundance, lost their relation to nourishment and nerve influence, becoming by that process pus, and furnishing a field fitting for the microbe. That the pus cell from the leucocyte and that from the tissue cell could not be differentiated. That microbes were not essential to pus, but were secondary to the same.

He also stated that pus was nature's dressing for the velvety granulations, and quoted Dr. Stricke as saying that a moderate amount of pus was not detrimental to healing.

He also advanced the idea that the differentiation of tissue took place but once, then reconstruction took place from the mother cells of that tissue; that we see the results of this law when we use the skin graft, nerve and bone graft.

He said some tissues regained their physiological function through the cicatricial tissue, as the nervous tissue, etc.

He said where healing took place under the scab, it was under desecated pus.

Then he explained how epithelium crept over the surface to cover the wound, and formed the scar.

He then stated that nature did the healing, and not art. All surgeons could do was to protect nature.

He advanced the idea that he believed in the migration of the leucocyte upon the surface; that one of its purposes was to act as phagocytes, to destroy by its digestive process the microcosm which enter from the air, thus being nature's benefactor in this open wound condition.

He also recognized the necessity of restricting the quantity of pus, and explained the different agents which caused the abundance, both external and internal. Said this is why good surgical dressing was required. That he did not believe in open wound treatment. Believed that the surgeon's duty was to put the wound in an aseptic condition and keep it so.

He urged the necessity of studying nature in her work of repair. Then we would be better able to aid her in the work of reconstruction. But by no means stand in the way of her humane work.

DISCUSSION.

Dr. Sheldon.—In many respects the doctor's paper represents the advance ideas of surgical repair. In other respects, it is far from it. The thought advanced that pus was not the product of microbes was at variance with the opinions of the surgeons of to-day, who hold that you must have microbes to produce pus. You must also have the other adjuncts, as heat, moisture, etc. If the pus is not the result of microbes, why use so much care in the dressing of wounds?

The process of repair is the same, whether by first intention or by granulation, viz., by cell proliferation. He used to talk of laudable pus, and thought it was necessary. Now we hermetically seal the wound so that no pus forms nor microbe enters. If our wounds now are properly dressed, we do not have pus. He would use a thick, light dressing, slightly moist.

The formation of bone through the medium of a bone from other animals is yet

questionable, and has not been demonstrated. What takes place here is that it merely forms a bridge over which the new cells spread; ivory or rubber tubes have answered the same purpose. The same thing has been accomplished by placing some foreign substance between the ends of nerves.

Dr. McClintock thought that Dr. Pelton had sprung a huge joke. Did not think he meant to give us pathology twenty years old.

Dr. Ward thought it unfair for Dr. McClintock to tell us he thought it a joke at the very opening, as it spoiled the discussion; thought it a serious matter.

Dr. Hamilton, of Auburn, said we ought to give this paper our serious consideration. There were plenty of men in Kansas whose opinions were not in accord with the opinions held by the leading surgeons of the day. He had heard of medical men talking in societies of ptomains dying. We should talk of these things, and give them our serious consideration.

Dr. Lindsay thought we were hardly treating Dr. Pelton fairly in intimating that he was not up to the times. He has given us evidence that he was acquainted with the growth and repair of the tissues. However, he does not agree with him that trophic changes in nerves produce pus.

Dr. Minney had followed the paper pretty closely, and thought Dr. Pelton had given us some good pathology.

Dr. Magee said in regard to Dr. Sheldon's remarks about moisture in the dressings, that this was unnecessary. One of our best surgeons was now using a dry powder and a light dressing.

Dr. Sheldon.—We should learn a lesson in aseptic surgery by noting how meat dried in the warm dry air of Mexico.

Dr. Mitchell also thought that the idea of moisture being essential to a complete dressing was contrary to accepted ideas. Thinks pus the product of microbes which prevent healing. Keep your wound clean, and keep it from the air.

Dr. Sheldon explained that the idea in using the moist dressing was to aid the dressing to take up the exudation, like a moist sponge will take up water more readily than a dry one. This dressing applies to granulating wounds, and not those that would heal by first intention.

Dr. Ward did not think we should stop to consider the paper when we know Dr. Pelton is able to write a better one. Hoped he would rewrite it in accordance with modern pathology.

Dr. O'Brien said the paper had been received for discussion and was entitled to a fair and free discussion. Would like to have some of the gentlemen who pooh-poohed the paper discuss it. Did not feel able to discuss it himself, but thought if a vote was taken by the profession at large we would find there was two sides to the question.

Dr. Powell coincided with Dr. O'Brien, but thought he would take issue with Dr. Pelton's deductions.

Dr. McClintock said that as the Society seemed to regard his remarks with so much seriousness, he would explain that he meant no offense to Dr. P., as he knew him to be able to write an able paper, but he certainly should take issue with him on many of the points of his paper. Had not taken careful notes of the paper, and felt that he could not at this time make a full discussion of the disputed points, but would be glad to discuss it at some future time when he had time to take up the points in detail.

Dr. Pelton did not know who had the most occasion to be surprised, the Society or himself. He was surprised at the stand some of the members took. In some things we are going back to our positions of fifty years ago. I know that Dr. Senn says that pus cannot be produced without a microbe, nor even inflammation, but I am not prepared to believe it, for as good and eminent teach otherwise. He quoted Dr. Freidlander, of Berlin, as saying, "Only where pus is exposed to air does the pus cell contain microbes," and Stricker "Microbes enter pus in the stage of decomposition." Dr. Stricker also says you cannot tell the difference between epithelial and pus cells in their early stage. Does pus come from leucocytes or from the tissue corpuscle? It is now held that it comes from the tissue corpuscle. (Explained how this took place.) In regard to

bone grafting, Dr. Sheldon did not understand him. He is of the same opinion. Dr. Starr says by section of the sympathetic of the eye he can produce purulent ophthalmia. Cited authors to prove that you could produce pus from irritation of cervical nerves. Did not say that decomposing pus was a natural formation, but when degeneration takes place the microbe enters and you have an action that produces pus.

Dr. Lindsay asked if the injury to the nerve of the eye was not sufficient to produce a nidus for the purulent ophthalmia.

Dr. Pelton said the severing of the nerve produced a degenerative process which was brought about through the trophic nerves, and in this way produced inflammation and pus.

Dr. Powell asked if micro-organisms could be found in purulent endo-carditis. Could they not be found in any other part of the body not exposed to the air?

Dr. Sheldon thought with Dr. Lindsay that the reason Dr. Starr gets purulent ophthalmia was that the power of resistance in the trophic nerves to micro-organisms was destroyed.

Dr. Pelton.—Dr. Stricker says "pus cells without microbes are found in the pleural cavity," and if this is the case, it was proof positive that microbes were not necessary to the formation of pus. Even in Senn's work you find he says "although pus cells had been found in cavities without the microbe," yet Senn says he does not consider it clinical pus, but non-septic, or words to that effect. In support of his theory of individual tissue reconstruction, as differentiated from leucocytes, he quoted Senn and Stricker, who he said were teaching upon that basis to-day.

Van Buren says granulating tissue and pus are a natural process of the nutriment material in repair.

Dr. Pelton warned the members against traveling the beaten path, and suggested that they read up and think some for themselves.

Dr. Minney was next with a paper on "Acute Suppuration of the Middle Ear," which was briefly discussed on account of the lateness of the hour by Drs. Lindsay, Pelton, Mitchell, and Sheldon.

Adjourned to meet November 3, 1891, at which time the annual election of officers occurs. T. W. PEERS, M.D., *President.*

D. F. RODGERS, M.D., *Secretary.*

THE Republican Valley Medical Society met in the parlors of the Y. M. C. A., in Concordia, Kas., October 1, 1891, at 11 A. M.

President Dr. F. M. Daily, of Scottsville, in the chair. Members present: Drs. J. H. Jeannotte and C. F. Leslie, of Clyde; J. H. Brierly, of Glasco; J. H. McCasey, S. C. Pigman, J. H. Marcotte, W. F. Sawhill, W. R. Priest, of Concordia; G. M. Lowe, of Randall; G. A. Wall and R. S. Magee, of Topeka; Grant Cullimore, of Atchison.

New members: Dr. J. W. Mitchell, of Superior, Detroit Medical College, 1870; Dr. G. N. Hartnell, Jamestown, Kas., University of Michigan, 1878; Dr. M. B. Ward, Topeka, Keokuk Medical College, 1877, made an honorary member; Dr. J. C. Hawley, Burr Oak, Kas., Ensworth Medical College, 1882; Dr. O. W. Hughes, Jewell City, College of Physicians and Surgeons, 1877; Dr. D. F. Reler, Beloit, Kas., Belvue Hospital College, 1889; Dr. M. N. Gardner, Greenleaf, Kas., Ann Arbor Medical College, 1883.

Board of Censors—Drs. Jeannotte, Sawhill, and Pigman.

Minutes of last meeting read and approved.

Dr. J. H. McCasey reported a very interesting case of cyst of the peritoneum with calculi from gall cyst. He exhibited the cyst with its fluid, as well as specimens of gall stones. He showed also with what readiness they were soluble in chloroform as compared to olive oil. Recommended the plan as suggested by Dr. S. G. Stewart, of Topeka, of injecting chloroform into the cyst, for the purpose of obtaining a solution of calculi. The cyst, as exhibited, was one of enormous proportions.

The next paper was read by Dr. Pigman, Laryngitis and Tracheotomy. This paper and the preceding one will appear in subsequent issues of the JOURNAL.

The discussion of an ethical question then followed, after which the meeting adjourned.

Notwithstanding the continual rain all day a large attendance was present, and enthusiasm was manifest throughout the entire proceedings.

C. F. LESLIE, M.D., *Secretary.*

The Northeastern Kansas Medical and Protective Association met in regular session in Netawaka, Kansas, October 13, 1891, with President Dr. Paddock in the chair. Minutes of previous meeting read and adopted.

Applications of Drs. McClintock, of Topeka, and M. C. Farrar, of Atchison, for membership being reported favorable they were elected.

After disposing of other regular business of the meeting, in the absence of Dr. Graham, of Wetmore, Dr. McClintock gave an interesting history of four cases of spinal injury healed by himself. The operations performed upon the spinal column for relieving these cases were characteristic of the doctor's judgment, skill and ingenuity in treating this class of injuries and place him in the front rank as an operator in spinal surgery.

Dr. Paddock then addressed the Association on the subject of Neurasthenia in an able manner. The doctor claimed that neurasthenia was not a disease *per se*, but rather a condition produced by other pathological states, and cited cases in his own practice in corroboration.

The discussion of the subject was followed by Dr. Farrar, of Atchison, with an excellent paper on "Orthœpedic Surgery," in which the doctor dealt more particularly on the treatment of deformities by massage.

Those members of the Society which were conspicuous by their absence missed a treat by not hearing the doctor's paper.

In the absence of Drs. Haigh and Fitzgerald, Dr. Paddock introduced a number of eye cases for examination and suggestions. His clinic formed quite an interesting feature of the meeting.

Dr. Moore, of Effingham, presented a paper on "Antiseptic Midwifery," at the close of which and before any discussion could be indulged in the whistle of the locomotive sounded, warning the boys going east to "get there."

The Society adjourned to meet at the office of Dr. P. R. Moore, in Effington, November 10, 1891, at 6 o'clock, P. M.

DR. L. P. PADDOCK, *President.*

S. M. RIGGS, *Secretary.*

The thanks of the Association are due Dr. Paddock and his estimable lady for the hospitable manner in which they entertained the members present. *Secretary.*

Prolapsus Uteri.

BY M. KOZEL, M. D., Hutchinson, Kans.

I write to let you know what effect dioviburnia has upon the fact of an old lady suffering of prolapsus uteri for the last twelve years. The organ just slipped out on getting from bed and hands in the external atmosphere. Some months ago I prescribed one-half pint of "dioviburnia" for one-half month duration to take a teaspoonful four times a day. Her face was full of brown big spots of all shapes which all disappeared in from five to seven or eight days. I saw her lately; her face was quite clean. So much credit to the dioviburnia as she received no other treatment.

Epilepsy and Chorea.

BY A. F. WATKINS, M. D., Potesi, Mo.

I find your neurosine a valuable nerve nerve tonic. I also find it the best remedy for epilepsy I have ever tried, and in chorea I look upon it as the best.

KANSAS CITY. Mo., May 29, 1891.

GENTLEMEN: I can from personal experience endorse the Three Chlorides as being all that is claimed for them.

Yours etc.,

E. R. LEWIS, M. D.

SWIFT & HOLLIDAY have just received a lot of Woods' wool tampons made by Johnson & Johnson. They are about fourteen inches long and made so that there is no unrolling and can be easily handled. For convenience and cleanliness they cannot be excelled.